AMERICAN MUSEUM NOVITATES

Number 1211 — Published by THE AMERICAN MUSEUM OF NATURAL HISTORY New York City — December 7, 1942

PHALANGIDA FROM MEXICO

By CLARENCE J. AND MARIE L. GOODNIGHT

Since the publication of the writers' first paper on the Mexican phalangid fauna (American Museum Novitates, No. 1163, 1942) several new collections have been placed at their disposal. These collections contained a number of new species and several new genera. Of especial interest was a new genus of Trogulid, the first of this family to be recorded from the mainland of Mexico. A new Phalangodid from a cave in the state of San Luis Potosi was also encountered. This new genus showed some affinities to two previously described genera, *Hoplobunus* Banks and *Haehnelia* Roewer.

The writers are particularly indebted to Drs. C. Bolívar and F. Bonet for permission to study their extensive collections. Likewise they have received specimens collected by L. I. Davis and by H. Hoogstraal.

All holotypes and many of the paratypes of new species are deposited in the collection of The American Museum of Natural History. Some of the paratypes are deposited in the personal collection of Dr. C. Bolívar Pieltain of the Instituto Enfermedades Tropicales, and Dr. F. Bonet of the Escuela Nacional de Ciencias Biologicas, both of Mexico, D. F.

SUBORDER LANIATORES THORELL

PHALANGODIDAE Simon

Phalangodinae Roewer

Hoplobunus barretti Banks

Figures 1, 2, 3, 4, 5 and 6

Hoplobunus barretti BANKS, 1900, Jour. New York Ent. Soc., VIII, p. 200.—ROEWER, 1912, Arch. Naturg., LXXVIIIA (3), p. 149.—ROEWER, 1923, Die Weberknechte der Erde, p. 112.

	I	II
Trochanter	0.5 mm.	0.6 mm.
Femur	2.2	2.7
Patella	0.5	0.9
Tibia	1.5	2.2
Metatarsus	1.4	2.7
Tarsus	1.0	2.9
Total	7.1 mm.	12.0 mm.

	III	IV
Trochanter	0.9 mm.	0.8 mm.
Femur	2.2	3.2
Patella	0.9	1.0
Tibia	2.5	2.5
Metatarsus	2.1	2.2
Tarsus	2.0	1.8
Total	10.6 mm.	11.5 mm.

MALE.—Total length of body, 5.9 mm. Cephalothorax, 2.0 mm. Width of body at widest portion, 4.1 mm.

Dorsal scute with five distinct areas, boundaries parallel. First area without a median line. Eye tubercle slightly separated from the anterior margin of the cephalothorax, in the form of a cone, broad at the base, eyes situated at the base. Eye tubercle tipped with a short spine, a row of tubercles on the median posterior line. A transverse row of small tubercles across the median portion of the first four areas and the posterior margin of the fifth area and the free tergites. A lateral row of tubercles on either side of the dorsal scute near the lateral margin. Free sternites with a transverse row of tubercles. Venter and coxae granulate; lateral teeth present on the anterior and posterior margins of coxa III and the anterior margin of coxa I.

Legs: first and second armed only with a few small tubercles; proximal segments of the third and fourth legs heavier, with spinous projections as in Figs. 4 and 5.

Tarsal segments: 5–9–7–7. Distitarsus of first tarsus with 2 segments; of second, 3 segments.

Palpus: trochanter, 0.9 mm. long; femur, 1.9; patella, 1.1; tibia, 1.4; and tarsus, 0.9. Total length, 6.2 mm. Palpus armed as in Fig. 6, and in addition on the prolateral margin of the patella there is a row of large tubercles.

Chelicera: proximal segment with an elevation, second much enlarged, as in Fig. 3.

Dorsum reddish brown with darker brown mottlings on the cephalothorax and the eye tubercle. Darker mottlings also present on the median portion of each dorsal area and on the posterior portion of the free tergites. Lateral margin darker. Venter and appendages reddish brown, a darker transverse area on each of the free sternites.

FEMALE.—Total length of body, 5.7 mm. Cephalothorax, 1.5 mm. Width of body at widest portion, 4.5 mm.

Identical in appearance with the male, except for the lack of the secondary sexual characters of the third and fourth leg. The chelicerae are slightly enlarged but not nearly so large as those of the male.

TYPE LOCALITY.—Male and female types from Cuernavaca, Morelos. Types in the collection of the Museum of Comparative Zoölogy, Cambridge, Massachusetts.

The above descriptions were made from the type specimens which were studied through the kindness of Dr. Nathan Banks.

Mexscotolemon acutus
Goodnight and Goodnight

Mexscotolemon acutus GOODNIGHT AND GOODNIGHT, 1942, Amer. Mus. Novitates, No. 1163, p. 1, Figs. 3, 4 and 5.

In the original description of this species, the writers failed to mention a few details. The spiracle is not visible. The prolateral margin of the palpus has a median apical spine on the femur and another on the median portion of the patella.

RECORD.—Male from La Buena Ventura, Vera Cruz, July, 1909 (A. Petrunkevitch).

SERROBUNUS, NEW GENUS

Dorsum with five distinct areas, the boundaries of which are parallel to one another. First area without a median line. Dorsal areas and free tergites without median paired spines or tubercles. Eye tubercle situated on the anterior margin of the cephalothorax, tipped by a median spine. All tarsal segments numbering more than 6. Distitarsus of first tarsus with 2 segments; of second, 3 segments. Femur of palpus without a median apical spine. The secondary sexual characters of the male in the enlarged chelicerae and in the armature of the fourth leg.

GENOTYPE.—*Serrobunus boneti*, new species.

This genus is related to *Hoplobunus* Banks, differing in the number of tarsal segments and the location of the eye tubercle.

Serrobunus boneti, new species

Figures 7, 8, 9, 10 and 11

MALE.—Total length of body, 6.8 mm. Cephalothorax, 2.2 mm. Width of body at widest portion, 4.6 mm.

	I	II
Trochanter	0.6 mm.	0.9 mm.
Femur	5.9	9.9
Patella	1.4	1.8
Tibia	4.5	9.9
Metatarsus	8.1	11.7
Tarsus	3.6	13.5
Total	24.1 mm.	47.7 mm.

	III	IV
Trochanter	1.2 mm.	1.2 mm.
Femur	8.1	11.3
Patella	1.5	1.9
Tibia	5.8	7.2
Metatarsus	9.3	12.6
Tarsus	4.5	5.4
Total	30.4 mm.	39.6 mm.

Dorsum smooth with five areas, boundaries of the areas parallel to one another. Dorsal areas and free tergites without median paired spines or tubercles. A transverse row of prominent tubercles across each area and free tergite. The tubercles of the first area small and irregularly arranged in the median portion; the transverse row of the fourth area lacking a few tubercles in the median line. In some specimens the median tubercles of the transverse row of the fourth area are somewhat enlarged. A row of tubercles along the lateral margin of the dorsal scute. Eye tubercle in the form of an elevated cone ending in a sharp spine which extends straight up. The cone of the eye tubercle thickly set with prominent tubercles. Eyes at base, small, apparently lacking the retina. Venter and coxae armed with irregularly scat-

tered hair-tipped tubercles, a transverse row across each free sternite. Spiracle visible. Tubercles of the first coxae enormous, almost spinose. Lateral teeth present on the anterior and posterior margins of coxa III. The apical portion of the fourth coxa and the trochanter with large spines as in Fig. 9.

Legs: trochanters covered with tubercles. Remainder of legs armed with scattered hairs and tubercles. The tubercles of the femora and patellae being almost spinose on the first and second legs and definitely spinose on the third and fourth. The third femur has two rows of larger spines ventrally and scattered smaller spines dorsally. The fourth femur has one row of five or six huge spines at the basal portion. At the distal portion of the fourth femur, two longer rows of twelve to fourteen large spines; medially and on the entire dorsal surface are numerous heavy tuberculations. Distal portion of the patella of the fourth leg with several large spines; ventrally the tibia of the fourth leg has two complete rows of large spines, and dorsally it is covered with thickly scattered heavy tubercles. Tarsal segments: 7–16–7–7. Distitarsus of first tarsus with 2 segments; of second, 3 segments. Proximal tarsal segment of the third and fourth legs longer than the remainder of the segments.

Palpus: trochanter, 0.9 mm. long; femur, 2.9; patella, 1.5; tibia, 1.8; and tarsus, 1.7. Total length, 8.8 mm. Palpus armed as in Fig. 8; and in addition on the prolateral margin a row of tubercles on the femur. Tibia and tarsus armed as on the retrolateral surface. Tarsal claw, 1.5 mm. long.

Chelicera: enormous, as in Fig. 10.

Color of entire animal reddish brown. Appendages concolorous except for the metatarsi and tarsi of the legs which are light yellow.

FEMALE.—Total length of body, 7.3 mm. Cephalothorax, 2.0 mm. Width of body at widest portion, 4.8 mm.

Similar to male in appearance, except that the spines of the legs are much reduced. The chelicerae are enlarged but not enormous.

TYPE LOCALITY.—Male holotype and male and female paratypes from Cueva de los Sabinos, San Luis Potosi, April 3, 1942 (C. Bolívar, F. Bonet, B. Osorio and D. Peláez).

COSMETIDAE Simon

Cosmetinae Cambridge

Cynorta triangulata Goodnight and Goodnight

Cynorta triangulata GOODNIGHT AND GOODNIGHT, 1942, Amer. Mus. Novitates, No. 1163, p. 4, Fig. 11.

In a large series of specimens of this species, there was found to be considerable variation in the dorsal color pattern. Some specimens lacked the white V and the median white line entirely.

RECORD.—Numerous males and females found under a decaying log at El Pujal, San Luis Potosi, April 2, 1942 (C. Bolívar). One female from Tampico, Tamaulipas, 1942 (G. F. Ekholm).

GUEROMA, NEW GENUS

Dorsum with five distinct areas, first and second areas with median paired tubercles. Third area with median paired spines. Fourth and fifth areas and free tergites unbedecked. Basal segments of third and fourth legs not conspicuously enlarged over those of the first and second legs. Tarsal segments: 5–more than 6–6–more than 6. Distitarsus of first tarsus with 3 segments; of second, 3 segments.

GENOTYPE.—*Gueroma lineata*, new species.

This genus differs from other genera of the Cosmetidae in the number of tarsal segments and in the dorsal armature.

Gueroma lineata, new species

Figure 12

FEMALE.—Total length of the body, 7.2 mm. Cephalothorax, 1.8 mm. Width of body at widest portion, 5.1 mm.

	I	II
Trochanter	0.4 mm.	0.6 mm.
Femur	2.2	5.1
Patella	0.8	0.9
Tibia	1.6	3.6
Metatarsus	2.5	4.5
Tarsus	1.5	3.2
Total	9.0 mm.	17.9 mm.
	III	IV
Trochanter	0.6 mm.	0.8 mm.
Femur	3.4	5.4
Patella	1.0	1.4
Tibia	2.4	3.2
Metatarsus	3.5	4.5
Tarsus	1.8	2.0
Total	12.7 mm.	17.3 mm.

Dorsum finely granulate, armed with the median paired tubercles of the first and second areas and the median paired spines of the third area. The paired spines on the third area are very large. The posterior margin of the fifth area and free tergites with transverse rows of small tubercles. A row of tubercles on the lateral margin of the abdominal scute. Eye tubercle normal. Venter and coxae armed with scattered hairs and a few small tuberculations. A transverse row of small tubercles across each

free sternite; a few lateral teeth present on the anterior and posterior margins of coxa IV and anterior margin of coxa I.

Legs: armed throughout with scattered hairs and scattered small tubercles on the femora, patellae and tibiae. Tarsal segments: 5–10–6–7. Distitarsus of tarsus of first leg with 3 segments; of second, 3 segments.

Palpus: trochanter, 0.4 mm. long; femur, 1.2; patella, 0.6; tibia, 1.1; and tarsus, 0.8. Total length, 4.1 mm. Palpus characteristically flattened, with ventral rows of teeth on the femur, patella and tibia.

Chelicera: normal, proximal segment slightly enlarged.

Dorsum reddish brown with darker brown mottlings along the lateral margins of the abdominal scute and on the cephalothorax. Fifth area and free tergites dark brown. On the cephalothorax, reddish brown areas make an intricate pattern with the darker markings. A light brown line crosses the median portion of the eye tubercle and passes from the anterior to the posterior margin of the cephalothorax. This lighter band is mottled with darker markings. The paired tubercles of the first and second areas are lighter brown; the spines of the third area are yellowish. There is a white pattern on the dorsum as follows: a broken irregular V at the margin of the cephalothorax and the abdomen, the arms of the V extending to the median portion of the margin of the cephalothorax; at the junction of the arms is a white line which divides the first area into two halves; this median line is lacking in the other areas; an incomplete line is present at the junction of the first and second areas and the second and third areas; these transverse white markings curve and bend upward, the posterior one joining the anterior one, but the curving portion of the most anterior white line incomplete so it does not join the cephalothorax; a curved line passes around each of the spines of the third area, and these two curved lines join in the median portion; an irregular white line is present in the median portion of the fourth area. Venter and coxae reddish brown, appendages concolorous with darker brown mottlings.

TYPE LOCALITY.—Female holotype and female paratype from Lo Bajo, Guerrero, June 30, 1941 (L. I. Davis).

Metavonones hispidus Cambridge

Figure 20

Metavonones hispidus CAMBRIDGE, 1904, Biol. Centr. Amer., Arach., II, p. 553, Pl. LII, figs. 6, 6a and 6b.—ROEWER, 1923, Die Weberknechte der Erde, p. 308.

MALE.—Total length of body, 4.3 mm. Cephalothorax, 1.4 mm. Width of body at widest portion, 3.2 mm.

	I	II
Trochanter	0.4 mm.	0.4 mm.
Femur	1.4	2.7
Patella	0.5	0.8
Tibia	1.1	1.8
Metatarsus	1.5	2.7
Tarsus	1.3	2.2
Total	6.2 mm.	10.6 mm.
	III	IV
Trochanter	0.4 mm.	0.5 mm.
Femur	2.1	2.7
Patella	0.7	1.1
Tibia	1.4	2.0
Metatarsus	2.2	3.2
Tarsus	1.2	1.2
Total	8.0 mm.	10.7 mm.

Dorsum finely granulate, third area with a median pair of low spines. Remaining areas and free tergites unbedecked. These spines are widely separated and slightly curved toward the median line. The posterior margin of the fifth area and the free tergites with transverse rows of small tubercles. The lateral margin of the dorsal scute with a row of tubercles. Eye tubercle normal, only a few small granulations above. The anterior lateral margin of the cephalothorax with two very small tubercles. Venter and coxae finely granulate, clothed with a few scattered hairs. Free sternites with transverse rows of very small tubercles.

Legs: trochanters granulate, fourth coxae with a spine at the distal portion, visible from above. Legs clothed throughout with scattered hairs. All segments except the tarsi with scattered tubercles. These tubercles are larger on the third and fourth legs; on the fourth femur and metatarsus larger tubercles are arranged in indefinite rows. Basitarsus of the first tarsus somewhat enlarged. Tarsal segments: 6–9–6–6. Distitarsus of both first and second tarsi with 3 segments.

Palpus: trochanter, 0.3 mm. long; femur, 0.7; patella, 0.5; tibia, 0.8; and tarsus, 0.3. Total length, 2.6 mm. Palpus characteristically flattened, granulate above; with a row of tubercles on the ventral margin of the femur and tibia and on the inner surface of the patella.

Chelicera: roughly granulate, proximal segment with a very slight elevation.

Entire dorsum reddish brown with darker and lighter mottlings. Darker brown mottlings regularly arranged about the lateral margin and on the fifth area and free tergites, much darker mottlings on the cephalothorax. There is an indefinite lighter brown median line through the first three areas and a still less definite transvere line in the median portion. Spines concolorous. Venter, coxae, chelicerae and palpi reddish brown, legs somewhat lighter, darker brown distally.

FEMALE.—Total length of body, 5.0 mm. Cephalothorax, 1.4 mm. Width of body at widest portion, 3.9 mm.

Identical in appearance with male, but basitarsus of first leg not enlarged. Legs not so granulate. Palpi and chelicerae less granulate, spines of third area much reduced.

RECORD.—Males and females from Cuernavaca, Morelos, May 5, 1940 (C. Bolívar), Las Caleras, Michoacan, April 7, 1941 (F. Bonet) and Tepoztlan, Morelos, July 6, 1941 (C. Bolívar and B. Osorio).

MICHELLA, NEW GENUS

Dorsum with five distinct areas. First and third areas with median paired tubercles. Remaining areas and free tergite without median armature. Secondary sexual characters on the fourth leg and chelicerae of the male. Third and fourth legs not enlarged over the first and second. Tarsal segments: 5–more than 6–6–6. Distitarsus of tarsus of first leg with 3 segments; of second, 3 segments.

GENOTYPE.—*Michella hoogstraali*, new species.

This genus is closely related to *Kevonones* Chamberlin, differing from it by having tubercles on the first and third areas of the dorsal scute.

Michella hoogstraali, new species

Figure 14

MALE.—Total length of body, 3.6 mm. Cephalothorax, 1.3 mm. Width of body at widest portion, 3.0 mm.

	I	II
Trochanter	0.3 mm.	0.3 mm.
Femur	1.2	1.9
Patella	0.5	0.8
Tibia	0.8	1.7
Metatarsus	1.3	2.2
Tarsus	1.0	1.7
Total	5.1 mm.	8.6 mm.

	III	IV
Trochanter	0.3 mm.	0.3 mm.
Femur	1.8	2.4
Patella	0.5	0.9
Tibia	1.2	1.8
Metatarsus	1.7	2.7
Tarsus	1.3	1.1
Total	6.8 mm.	9.2 mm.

Dorsum granulate. Median paired tubercles present on the first and third areas, those of the third larger. In addition to these median paired tubercles, there are three small tubercles on either side in the second area. In the third area, there is a pair of tubercles mesial to the paired tubercles and three very small tubercles distad to the paired tubercles. The fourth area has a row of five tubercles in the median portion. The fifth area and the free tergites with transverse rows of large conspicuous tubercles. A row of tubercles present at the lateral margin of the abdomen in the region of the bulge. Eye tubercle normal, a few larger granulations on the dorsal surface. Venter granulate, a transverse row of tubercles across the free sternites. A few scattered hairs on the coxae.

Legs: clothed with hairs and scattered tuberculations, the tubercles of the femora, patellae and tibiae very distinct. At the distal posterior portion of the trochanters a conspicuous tubercle. The dorsal portion of the fourth coxae very tuberculate and with a distal spine visible from above. The basal segments of the fourth leg with especially strong tuberculations, more or less arranged in rows on the femur. Tibia with an inner row of large tubercles ending with a very large spinose one at the distal portion. Tarsal segments: 5–8–6–6. Distitarsi of both first and second tarsi with 3 segments. The basal portion of the first tarsus somewhat enlarged.

Palpus: trochanter, 0.2 mm. long; femur, 0.5; patella, 0.3; tibia, 0.7; and tarsus, 0.4. Total length, 2.1 mm. Palpus characteristically flattened, with the femur covered with numerous tuberculations.

Chelicera: with the proximal segment slightly enlarged.

Dorsum very dark brown, almost black. Lighter brown markings indefinitely penciled in the median line and on the boundaries of the areas. The tubercles lighter brown. The lighter brown markings form an irregular pattern along the lateral margin of the abdomen; on the cephalothorax they form an intricate design with the darker brown markings. A lighter area starts at the posterior margin of the cephalothorax, crosses the median portion of the eye tubercle and extends to the anterior margin. Venter and coxae mottled dark and light brown. Appendages likewise mottled; however, the chelicerae and palpi have a greater preponderance of the lighter brown areas.

TYPE LOCALITY.—Male holotype found

under rocks near Pedregal, Tancitaro, Michoacan, June 23, 1941 (H. Hoogstraal).

ORNOTUS, NEW GENUS

Dorsum with five distinct areas. Median paired tubercles present on the first area, median paired spines on the third. Remaining areas and free tergites without armature. Third and fourth legs not enlarged over the first and second. Tarsal segments: 5–more than 6–6–6. Distitarsi of both first and second tarsi with 3 segments.

GENOTYPE.—*Ornotus pelaezi*, new species.

This genus shows close affinities to *Michella* but has spines rather than tubercles on the third area.

Ornotus pelaezi, new species

Figure 19

FEMALE.—Total length of body, 4.9 mm. Cephalothorax, 1.5 mm. Width of body at widest portion, 4.1 mm.

	I	II
Trochanter	0.4 mm.	0.4 mm.
Femur	1.5	3.1
Patella	0.6	0.9
Tibia	1.2	2.2
Metatarsus	1.8	3.0
Tarsus	1.0	2.1
Total	6.5 mm.	11.7 mm.

	III	IV
Trochanter	0.5 mm.	0.5 mm.
Femur	2.3	2.9
Patella	0.7	1.1
Tibia	1.7	2.7
Metatarsus	2.1	3.6
Tarsus	1.1	1.3
Total	8.4 mm.	12.1 mm.

Dorsum roughly granulate, median paired tubercles present on the first area, median paired spines on the third. Remaining areas and free tergites without median paired spines or tubercles. On the first area, a pair of small tubercles mesial to the paired tubercles; on the second area two very small tubercles on either side of the median line; fourth area with similar tubercles; the fifth area and free tergites with a transverse row of small tubercles. Eye tubercle normal. Venter and coxae armed with scattered hairs and a few tubercles. Transverse row of small tubercles across each free sternite.

Legs: clothed with scattered hairs and tubercles. Tubercles large and more or less arranged in rows on the femora. Those of the fourth being more prominent. Tarsal segments: 5–8–6–6. Distitarsi of both first and second tarsi with 3 segments.

Palpus: trochanter, 0.3 mm. long; femur, 0.9; patella, 0.4; tibia, 1.0; and tarsus, 0.5 mm. Total length, 3.1 mm. Palpus characteristically flattened. Femur with ventral teeth.

Chelicera: normal.

Dorsum dark reddish brown, lighter brown mottlings present on the cephalothorax. White markings present as follows: a narrow V at the junction of the cephalothorax and the abdomen, the arms of the V ending at the lateral margin of the cephalothorax in the median portion; at this point there is a wider curved line extending posteriorly for a short distance; a narrow broken line is present in the median line of the first three areas; three curved lines separate the first three areas for three-fourths of the distance from the median line to the outer edge. Irregularly scattered over the first three areas and the lateral margin of the scute are numerous small white dots; in the center of each dot is a small brown tubercle. Across the fourth and fifth areas and the free tergites similar spots are arranged in transverse rows. The median spines are reddish brown. Venter, coxae and appendages reddish brown with darker brown mottlings.

TYPE LOCALITY.—Female holotype from Orizaba, Vera Cruz, July 28, 1939 (C. Bolívar and D. Peláez). Female paratype from leaf mold in tropical jungle at Fortin, Vera Cruz, January 15, 1942 (F. Bonet).

POALA, NEW GENUS

Dorsum with five areas. Third area with a median pair of very low tubercles, remaining dorsal areas and free tergites unarmed. Third and fourth legs not enlarged over the first and second. Tarsal segments: 5–more than 6–6–6. Distitarsi of both first and second tarsi with 3 segments.

GENOTYPE.—*Poala granulosa*, new species.

This genus is also related to *Michella* but lacks the tubercles of the first area.

Poala granulosa, new species

Figure 13

MALE.—Total length of body, 4.1 mm. Cephalothorax, 1.5 mm. Width of body at widest portion, 3.5 mm.

	I	II
Trochanter	0.4 mm.	0.4 mm.
Femur	1.5	2.4
Patella	0.6	0.9
Tibia	0.9	1.7
Metatarsus	1.4	2.2
Tarsus	1.2	1.7
Total	6.0 mm.	9.3 mm.

	III	IV
Trochanter	0.4 mm.	0.6 mm.
Femur	2.0	2.3
Patella	0.8	1.0
Tibia	1.4	2.0
Metatarsus	1.8	3.0
Tarsus	1.1	1.3
Total	7.5 mm.	10.2 mm.

Dorsum coarsely granulate, giving a much roughened appearance. These granulations are especially prominent at the posterior portion of the dorsal scute and on the free tergites. On the free tergites, the tuberculations give a crenulate appearance to the posterior margins. The lateral margin of the dorsal scute is fringed with a row of small tuberculations. The third area with a median pair of very low tubercles, remaining dorsal areas and free tergites without median armature. Eye tubercle normal, a few granulations over each carina. Anterior lateral margin of the cephalothorax with three very small projections. Venter and coxae finely granulate, clothed with a few scattered hairs. A transverse row of tubercles across each free sternite. Fourth coxa with an apical spine visible from above, very granulate dorsally.

Legs: except tarsi roughly granulate. All segments of the legs clothed with scattered hairs. The granulations of the fourth leg are much enlarged. There are two distinct rows of tuberculations on the ventral portion of the fourth femur. Dorsally the granulations are thickly scattered. There is a small projecting spine at the inner portion of the apical end of the femur. The third and fourth legs with the basal segments not conspicuously enlarged over those of the first and second. Tarsal segments: 5–7–6–6. Distitarsi of both first and second tarsi with 3 segments. In a few specimens, there were but six segments in the second tarsus.

Palpus: trochanter, 0.3 mm. long; femur, 0.8; patella, 0.5; tibia, 0.8; and tarsus, 0.4. Total length, 2.8 mm. Palpus characteristically flattened, a row of tuberculations on the ventral portion of the femur.

Chelicera: proximal segment slightly enlarged and roughly granulate, distal segment with a few scattered hairs.

Dorsum reddish brown with darker brown mottlings on the cephalothorax and along the lateral margin of the abdominal scute. The center portions of the areas are darker brown, making them appear outlined with the lighter color. An indistinct lighter median line is partially visible in the first few areas. Free tergites dark brown. Venter and coxae reddish brown, legs reddish brown with a darker brown overcast. Palpus and chelicera concolorous with the legs.

FEMALE.—Total length of body, 5.2 mm. Cephalothorax, 1.5 mm. Width of body at widest portion, 3.2 mm.

Identical in appearance with the male, but the tuberculations of the legs and chelicerae are reduced. Occasionally in females, the paired tubercles of the third area are so much reduced as to be scarcely discernible from the rough granulations of the dorsum.

TYPE LOCALITY.—Male holotype and male and female paratypes from National Park in Zempoala, Morelos, April 14, 1940 (C. Bolívar and D. Peláez) and July 20, 1941 (C. Bolívar).

SUBORDER PALPATORES THORELL

Tribe **DYSPNOI** Hansen and Soerensen

TROGULIDAE Simon

TRILASMA, NEW GENUS

Eye tubercle prolonged into a club-shaped process with eleven to twelve small openings on either side formed by projections, also with a median dorsal row of nine to ten small openings. Anterior lateral margin of the cephalothorax prolonged into two projections on either side. First four abdominal segments with median paired spines. Tarsal segments: 4–5, 4–7, 7–8 and 7–9. Distitarsi of both first and second tarsi with two segments.

GENOTYPE.—*Trilasma bolivari*, new species.

This genus is related to *Ortholasma* Banks; however, it differs in having a smaller number of tarsal segments and in having the dorsal projections on the eye tubercle.

Trilasma bolivari, new species

Figures 16, 17 and 18

MALE.—Total length of body, 2.7 mm. Cephalothorax, 0.7 mm. Width of body at widest portion, 1.6 mm.

	I	II
Trochanter	0.4 mm.	0.4 mm.
Femur	1.3	2.2
Patella	0.4	0.6
Tibia	0.8	2.0
Metatarsus	0.5	1.8
Tarsus	0.9	1.3
Total	4.3 mm.	8.3 mm.

	III	IV
Trochanter	0.4 mm.	0.4 mm.
Femur	1.3	1.9
Patella	0.4	0.6
Tibia	1.0	1.9
Metatarsus	0.6	0.9
Tarsus	0.8	1.1
Total	4.5 mm.	6.8 mm.

Cephalothorax arched with the two robust projections at the anterior lateral margin; these projections with a median cross bar. Eye tubercle prolonged into a racket-shaped process with ten to twelve openings on either side. The processes forming these openings with small cross bars at their distal tips. These small cross bars separate from each other but more or less connected to the one anterior and the one posterior. Projecting dorsally on the dorsal surface of the eye tubercle is another row of nine to ten similar processes. The eyes are at the base of the eye tubercle, not carried forward. The projection of the eye tubercle is strongly arched, the tip being much elevated. Circling the eye tubercle and extending posteriorly in the form of two rows is a lace-like elevation. There is a similar pattern at the lateral margin. At the posterior portion of the cephalothorax are two curved transverse rows of tubercles connected by narrow lines of lacy elevations. The four pairs of median spines have near each of their bases a small cross bar which connects them to similar lines of elevations. All of these form a complicated lace-like pattern over the dorsal scute. Irregularly scattered along the elevations are numerous tubercles. The entire complex system interconnected. Along the posterior margin of the dorsal scute is a series of larger and smaller projections with small cross bars in the median portion. While there is some irregularity, the larger and smaller projections alternate. There are about twenty at the posterior end of the animal. The free tergites and the anal operculum likewise have transverse rows of small projections, some of which have cross bars. Free sternites, genital operculum and coxae roughly tuberculate. Coxae with lateral projections which are arranged like lateral teeth but which are interconnected by cross bars. The anterior distal portion of the fourth coxae with projecting spines. Spiracle visible, folded in along the fourth coxa.

Legs: trochanters thickly covered with hair-tipped globular tubercles. A few small black spines on the femora, remainder of legs clothed with scattered hairs. Metatarsi with false articulations. Tarsal segments: 4–5, 4–7, 7–8 and 7–9. Distitarsi of tarsi of both first and second legs with but two segments. Tarsal segments of holotype: 5–7–7–8. The most distal segment of the tarsi of the first and second legs considerably longer than the other segments.

Palpus: trochanter, 0.4 mm. long; femur, 0.7; patella, 0.6; tibia, 0.4; and tarsus, 0.3. Total length, 2.4 mm. Palpus characteristic, thickly covered with long hairs.

Chelicera: normal, clothed with a few long black hairs.

Color of entire animal brownish. Venter and coxae lighter, silvery in appearance. Eye tubercle and portions of the cephalothorax darker. Appendages concolorous with the dorsum. Some specimens are extremely dark.

FEMALE.—Total length of body, 2.9 mm. Cephalothorax, 0.7 mm. Width of body at widest portion, 1.9 mm.

Identical in appearance with male.

TYPE LOCALITY.—Male holotype and male and female paratypes from Rio Frio, Puebla. Collected April 26, 1942, at an altitude of 9000 feet in a forest of *Abies* and *Thuya* (C. Bolívar, B. Osorio, and D. Peláez). Male and female paratypes from Santa Rosa, Guanajuato, September 23, 1941 (C. Bolívar); Desierto de los Leones, D. F., March 22, 1941 (M. Cárdenas and M. Correa) and July 30, 1939 (F. Bonet); Rio Frio, Mexico (M. Cárdenas and M. Correa); National Park of Zempoala, Morelos, April 14, 1940 (C. Bolívar and D. Peláez).

Tribe EUPNOI Hansen and Soerensen

PHALANGIIDAE Simon

Leiobuninae Banks

Hadrobunus davisi
Goodnight and Goodnight

Hadrobunus davisi GOODNIGHT AND GOODNIGHT, 1942, Amer. Mus. Novitates, No. 1163, p. 14, Fig. 19.

RECORD.—Ayotzinapa, Guerrero, found in moss in an oak forest (F. Bonet).

Leiobunum nycticorpum
Goodnight and Goodnight

Leiobunum nycticorpum GOODNIGHT AND GOODNIGHT, 1942, Amer. Mus. Novitates, No. 1163, p. 12, Fig. 23.

RECORD.—Santa Rosa, Guanajuato, September 23, 1941 (C. Bolívar).

Leiobunum patzquarum, new species
Figure 23

MALE.—Total length of body, 4.5 mm. Cephalothorax, 1.4 mm. Width of body at widest portion, 2.9 mm. Femora of legs: I, 9.9 mm.; II, 15.7 mm.; III, 10.8 mm.; IV, 12.9 mm.

Dorsum roughly granulate, the abdominal scute with small ridges thickly scattered, giving a shiny metallic appearance. Eye tubercle constricted at the base, slightly canaliculate, smooth above except for a few small hairs. Supracheliceral lamella in the form of two expanded plates. Body subtruncate caudad as seen from above. Venter and coxae smooth, clothed only with a few hairs. Lateral rows of teeth present on the anterior and posterior margins of coxae I to IV and on the lateral margins of the genital operculum.

Legs: armed with scattered black spine-like hairs except for the metatarsi and tarsi. Metatarsi with false articulations.

Palpus: trochanter, 0.4 mm. long; femur, 1.4; patella, 0.6; tibia, 0.9; and tarsus, 1.4. Total length, 4.7 mm. Palpus clothed throughout with hairs, and in addition small black spines on the ventral surface of the femur and throughout the patella. Patella without apophyses.

Chelicera: normal.

Eye tubercle light brown, the lateral portion of the cephalothorax yellowish; remainder of dorsum metallic, gleaming, appearing to have a dark purplish overcast. Venter and coxae yellowish, trochanters concolorous. Legs brownish; palpi yellowish with a few brown mottlings on the femur, patella and tibia. Chelicerae light yellowish, claws tipped with black.

TYPE LOCALITY.—Male from Patzquaro, Michoacan, June 12, 1941 (A. M. Davis).

This species is closely related to *L. metallicum* Roewer but differs in the appearance of the cephalothorax.

Leiobunum potosum, new species

Figure 21

FEMALE.—Total length of body, 6.3 mm. Cephalothorax, 1.4 mm. Width of body at widest portion, 3.6 mm. Femora of legs: I, 7.5 mm.; II, 11.7 mm.; III, 7.3 mm.; IV, 8.5 mm.

Dorsum roughly granulate. Eye tubercle in the median portion of the cephalothorax, constricted at the base. Slightly canaliculate, unarmed above except for a few small hairs. Supracheliceral lamella slightly prolonged. Venter and coxae smooth. Coxae with lateral teeth on the anterior and posterior margins of I to IV.

Legs: trochanters, femora and patellae armed with small black spines. Metatarsi with false articulations.

Palpus: trochanter, 0.4 mm. long; femur, 0.9; patella, 0.4; tibia, 0.6; and tarsus, 1.3. Total length, 3.6 mm. Palpus armed throughout with scattered hairs, and in addition, small black spines on the ventral surface of the femur and tibia and on the dorsal surface of the femur, patella and tibia. Patella without apophyses.

Chelicera: normal.

Dorsum with a broad, median, dark brown stripe, beginning at the anterior margin of the cephalothorax, enclosing the eye tubercle and disappearing at the posterior portion of the abdomen. Eye tubercle light brown, eyes black. The portion of the dorsum from the median dorsal stripe to the lateral margin lighter brown with many lighter yellow punctations. On the extreme lateral portion these yellowish punctations become much lighter, almost white and are quite conspicuous against the brown background. Posterior portion of the abdomen as dark as the median stripe. Venter and coxae light yellowish. Trochanters and bases of femora brown, contrasting. Legs light brown, darker distally. Palpi and chelicerae light yellowish.

TYPE LOCALITY.—Female holotype from 30 miles northwest of Ciudad del Maiz, San Luis Potosi, June 9, 1941 (L. I. Davis).

Leiobunum potosum resembles *Leiobunum ventricosum* (Wood), differing by having a distinct dorsal stripe and pale dots along the lateral margin of the dorsum.

Nelima mexicana, new species

Figure 15

MALE.—Total length of body, 3.1 mm. Cephalothorax, 1.1 mm. Width of body at widest portion, 2.1 mm. Length of femora: I, 4.1 mm.; II, 6.9 mm.; III, 4.1 mm.; IV, 6.3 mm.

Dorsum finely granulate, eye tubercle at the posterior portion of the cephalothorax, not canaliculate, smooth above. Supracheliceral lamella in the form of two expanded plates. Venter and coxae smooth, armed with scattered black spine-like hairs. Coxae without lateral teeth.

Legs: clothed with scattered black hairs. These hairs more prominent and spine-like on the femora. Metatarsi with false articulations.

Palpus: trochanter, 0.4 mm. long; femur, 1.0; patella, 0.5; tibia, 0.6; and tarsus, 1.1. Total length, 3.6 mm. Palpus armed throughout with scattered hairs, spine-like on the ventral portion of the femur. Apical median portion of the patella not prolonged, only slightly swollen.

Chelicera: normal.

Dorsally the cephalothorax has a median dark brown stripe which encloses the eye tubercle and spreads out to the posterior margin as a transverse dark line. Lateral portion of the cephalothorax buff. Abdomen with a median, dark, almost black stripe. This stripe disappears at the posterior third of the abdomen which is as dark. The lateral portion of the anterior part of the abdomen lighter. There are a few irregular lighter dots arranged in more or less transverse lines across the abdomen. Eye tubercle light at the base, darker above. One specimen had a small transverse white stripe posterior to the eye tubercle. Venter and coxae yellowish, trochanters concolorous with the coxae. Legs brownish, mottled. The distal portion of the femora and patellae dark. Palpus with the trochanter, proximal portion of the femur, and distal portion of the tibia and tarsus yellowish. Most of the femur, patella and tibia dark brown. Chelicerae yellowish with black claw.

TYPE LOCALITY.—Male holotype from mountain pass east of Mexico City, June 30, 1936 (L. I. Davis). Male paratypes

from Desierto de los Leones, D. F., July 30, 1939 (F. Bonet); and Rio Frio, Puebla, April 26, 1942 (C. Bolívar, B. Osorio and D. Peláez).

This species is the first of the genus *Nelima* Roewer to be reported from Mexico.

Nelima tancitaro, new species

Figure 22

MALE.—Total length of body, 3.1 mm. Cephalothorax, 1.2 mm. Width of body at widest portion, 2.3 mm. Length of femora: I, 3.6 mm.; II, 5.8 mm.; III, 3.6 mm.; IV, 5.8 mm.

Dorsum smooth, eye tubercle in the median portion of the cephalothorax, not canaliculate, smooth above. Supracheliceral lamella expanded in the form of two plates. Venter and coxae smooth, armed with scattered black spine-like hairs. Coxae without lateral teeth.

Legs: clothed throughout with hairs which are larger and spine-like on the femora. Metatarsi with false articulations.

Palpus: trochanter, 0.3 mm. long; femur, 0.7; patella, 0.4; tibia, 0.4; and tarsus, 1.0. Total length, 2.8 mm. Palpus clothed throughout with hair. Numerous small black spines on the femur, patella and tibia. Especially thick on the ventral portion of the femur and the tibia. Tarsal claw toothed.

Chelicera: normal, clothed throughout with black, spine-like hairs.

Dorsum mottled light and darker brown. A light, almost white stripe begins at the eye tubercle and extends across the median portion of the dorsum to the posterior margin. Bordering this stripe on either side is a mottled area of darker brown which expands on the cephalothorax and encloses the eye tubercle. Laterad to these darker stripes is a mottled area of lighter markings. Eye tubercle with a white median stripe. Eyes ringed with black, brownish at the base. Venter and coxae very light brown with a few darker brown mottlings on each coxa. Trochanters darker brown, contrasting slightly with the coxae. Legs dark brown. On the femur, patella and tibia of all the legs are numerous light lines giving a rough semblance of annulations. Palpus light yellowish brown, mottled with darker brown on all segments except the tarsus. Chelicerae light, mottled with darker brown.

TYPE LOCALITY.—Male from Cerro Tancitaro, Michoacan, July 20, 1941 (H. Hoogstraal). Male paratypes from same locality, collected July 12–20, 1941 (H. Hoogstraal).

N. tancitaro differs from *N. mexicana* by having shorter legs and in having a different dorsal appearance.

Paranelima albalineata, new species

Figure 24

FEMALE.—Total length of body, 5.5 mm. Cephalothorax, 1.6 mm. Width of body at widest portion, 2.9 mm.

	I	II
Trochanter	0.4 mm.	0.4 mm.
Femur	2.2	3.3
Patella	0.5	0.6
Tibia	1.8	3.1
Metatarsus	2.2	3.2
Tarsus	3.6	6.3
Total	10.7 mm.	16.9 mm.
	III	IV
Trochanter	0.4 mm.	0.4 mm.
Femur	2.2	3.2
Patella	0.6	0.7
Tibia	1.7	2.6
Metatarsus	2.2	3.2
Tarsus	4.1	4.5
Total	11.2 mm.	14.6 mm.

Eye tubercle not canaliculate, smooth above. Anterior margin of the cephalothorax smooth, supracheliceral lamella smooth. Coxae without lateral teeth, smooth, with a few scattered small black hairs. Venter smooth.

Legs: slender, metatarsi with false articulations. Legs clothed with numerous scattered hairs.

Palpus: trochanter, 0.4 mm. long; femur, 0.6; patella, 0.4; tibia, 0.5; and tarsus, 0.9. Total length, 2.8 mm. Palpus clothed throughout with scattered spine-like hairs, more numerous on the ventral surface of the femur and tibia. Tarsal claw toothed.

Chelicera: normal, clothed with a few black hairs.

Dorsum light brown with a wide median stripe of white. This stripe begins at the anterior margin of the cephalothorax, is rather narrow to the eye tubercle, passes across the dorsal surface of the eye tubercle and from here extends posteriorly as a wider stripe to the posterior portion of the body. On either side of the white stripe is a smaller stripe of darker brown, indefinite in diameter. Cephalothorax and lateral portions of the abdomen light brown, mottled with small silvery punctations and darker brown. The boundaries of the segments of the abdomen with a few irregular darker brown spots. The anterior margin of the cephalothorax also with darker brown spots. Venter and coxae yellowish with darker brown splotches on the distal portion of the coxae. Trochanters yellowish with dark brown markings. Legs yellowish with darker brown markings. These markings more prominent on the femur, patella and tibia. Palpus yellowish with numerous dark markings on the femur, patella and tibia. Chelicerae yellowish with brown markings.

TYPE LOCALITY.—Female holotype from National Park near Las Cruces, Mexico, June 11, 1941 (L. I. Davis). Female paratypes from Malinche (La Canada), Tlaxcala at 9000 feet, March 31, 1940 (C. Bolívar); National Park at Zempoala, Morelos at 9000 feet, July 20, 1941 (C. Bolívar); and mountain pass east of Mexico City, June 20, 1937 (L. I. Davis).

P. albalineata differs from *P. lutzi* (Goodnight and Goodnight) by having a broad white stripe on the dorsum.

Paranelima cerrana, new species

Figure 30

FEMALE.—Total length of body, 6.5 mm. Cephalothorax, 1.4 mm. Width of body at widest portion, 3.2 mm.

	I	II
Trochanter	0.4 mm.	0.5 mm.
Femur	3.6	5.6
Patella	0.9	1.1
Tibia	2.9	5.1
Metatarsus	3.4	5.4
Tarsus	4.5	10.8
Total	15.7 mm.	28.5 mm.

	III	IV
Trochanter	0.5 mm.	0.5 mm.
Femur	3.6	5.6
Patella	1.1	1.3
Tibia	2.7	3.9
Metatarsus	3.5	5.5
Tarsus	5.2	7.2
Total	16.6 mm.	24.0 mm.

Dorsum smooth, eye tubercle not canaliculate, smooth above. Anterior margin of the cephalothorax and the supracheliceral lamella smooth. Eye tubercle located on the anterior third of the cephalothorax. Venter and coxae smooth, with a few small scattered hairs.

Legs: clothed with a few scattered hairs. Metatarsi with false articulations.

Palpus: trochanter, 0.4 mm. long; femur, 0.8; patella, 0.4; tibia, 0.5; and tarsus, 1.2. Total length, 3.3 mm. Palpus clothed throughout with scattered black spine-like hairs, more numerous on the ventral portion of the femur. Tarsal claw toothed.

Chelicera: normal.

Dorsum dark brown with numerous scattered lighter punctuations. Eye tubercle dark at base, light above; the lighter portion above forming a dorsal stripe separated into two portions by a median brown line. Lighter mottlings at the junction of the abdomen and cephalothorax. On the abdomen numerous lighter brown irregular splotches indefinitely arranged in three longitudinal stripes, one median and two lateral. Venter and coxae mottled, darker and lighter brown. Coxae darkened distally. Legs likewise mottled, the darker portions being the distal parts of the femora, patellae and tibiae. Femur and patella and proximal part of tibia of palpus dark brown. Trochanter, tarsus and distal portion of tibia yellowish. Chelicerae yellowish.

TYPE LOCALITY.—Female holotype from Cerro Tancitaro, Michoacan, at 7800 feet, June 30, 1941 (H. Hoogstraal).

P. cerrana differs from both *P. albalineata* and *P. lutzi* in having a distinctive color pattern.

Paranelima lutzi
(Goodnight and Goodnight)

Glabrurus lutzi Goodnight and Goodnight, 1942, Amer. Mus. Novitates, No. 1163, p. 13, Fig. 21.

RECORD—Rio Frio, Puebla, April 26, 1942, at 9200 feet (C. Bolívar).

Phalangiinae Simon

Diguetinus spinulatus (Banks)

Leptobunus spinulatus BANKS, 1898, Jour. New York Ent. Soc., VI, p. 182.—ROEWER, 1910, Abh. Ver. Hamburg, XIX (4), p. 257.

Diguetinus raptator ROEWER, 1912, Abh. Ver. Hamburg, XX (1), p. 272, Pl. I, fig. 25.—ROEWER, 1923, Die Weberknechte der Erde, p. 863, Fig. 1030.

Hadrobunus spinulatus ROEWER, 1923, Die Weberknechte der Erde, p. 920.

RECORD.—Morelia, Michoacan, September, 1940 (F. Cortes) and Esperanza, Guanajuato at 8000 feet, September 26, 1941 (C. Bolívar).

An examination of the type of *Leptobunus spinulatus* Banks in the collection of the Museum of Comparative Zoölogy, Cambridge, Massachusetts, revealed the fact that this species did not belong in the genus *Hadrobunus* but was a member of the genus *Diguetinus* and without much question identical with Roewer's *D. raptator.*

Metopilio hispidus Roewer

Figure 32

Metopilio hispidus ROEWER, 1915, Arch. Naturg., LXXXIA (3) p. 134.—ROEWER, 1923, Die Weberknechte der Erde, p. 860.

FEMALE.—Total length of body, 5.1 mm. Cephalothorax, 1.3 mm. Width of body at widest portion, 3.4 mm.

	I	II
Trochanter	0.4 mm.	0.4 mm.
Femur	1.6	4.5
Patella	0.6	1.0
Tibia	1.5	4.1
Metatarsus	1.6	2.4
Tarsus	2.7	7.2
Total	8.4 mm.	19.6 mm.

	III	IV
Trochanter	0.4 mm.	0.4 mm.
Femur	1.9	3.0
Patella	0.7	0.7
Tibia	1.5	2.2
Metatarsus	1.8	3.1
Tarsus	3.1	4.5
Total	9.4 mm.	13.9 mm.

Dorsum roughly granulate, the granulations appearing as small disks. A pair of sharp spines in the median portion of the first seven abdominal segments. The first and last pair much smaller, while the three middle pairs are more robust. On either side of the pairs of spines is a row of two to four smaller spines. At the junctions between the cephalothorax and the abdomen are a few small tubercles. Eye tubercle low, not canaliculate, situated near the anterior margin, armed above with a few spinose tubercles. The median anterior margin of the cephalothorax with a slight elevation on which are six or seven spinose tubercles irregularly arranged. Venter granulate, both venter and coxae clothed with scattered spine-like hairs. Coxae without lateral teeth. Distal portion of the fourth coxae armed dorsally with some small black spines. Second maxillar lobes slanted, supracheliceral lamella smooth.

Legs: clothed throughout with hairs. All segments except the metatarsus and tarsus with small spines arranged in rows. Trochanters spinose. The second leg with three false articulations in the tibia and two in the metatarsus. The metatarsus of the fourth leg with one false articulation. First and third legs heavier than the second and fourth.

Palpus: trochanter, 0.3 mm. long; femur, 0.5; patella, 0.3; tibia, 0.4; and tarsus, 0.8. Total length, 2.3 mm. Palpus armed throughout with spine-like hairs which are heavier and more numerous in the ventral portion of the femur and tibia Tarsal claw smooth.

Chelicera: normal, clothed with scattered hairs.

Dorsum mottled with darker and lighter brown, dorsal spines light brown, darker patches of brown present on the posterior portion of the abdomen. The lateral portion of the second and third abdominal segments with darker patches of brown; some darker mottlings on the cephalothorax. Eye tubercule dark at the base with a light stripe dorsally. Venter and coxae mottled with light and dark brown. Heavy dark brown splotches on the coxae, especially prominent distally. Legs mottled with light and dark brown. First and third leg much darker, palpi light brownish with much dark brown on the femur, patella and tibia. Chelicerae light brown.

Record.—Female from Chapultepec, D. F., October 13, 1939 (F. Bonet). Female from Zitacuaro, Michoacan, September 7, 1941 (C. Bolívar and A. Díaz).

Roewer has adequately described the male of this species, but the writers were fortunate enough to secure females. A description of these has therefore been included.

Metopilio niger, new species

Figure 29

Male.—Total length of body, 3.4 mm. Cephalothorax, 1.2 mm. Width of body at widest portion, 2.3 mm.

	I	II
Trochanter	0.4 mm.	0.4 mm.
Femur	1.0	2.5
Patella	0.5	0.9
Tibia	1.1	2.2
Metatarsus	1.1	1.5
Tarsus	2.0	4.1
Total	6.1 mm.	11.6 mm.

	III	IV
Trochanter	0.4 mm.	0.4 mm.
Femur	1.0	2.0
Patella	0.5	0.4
Tibia	1.1	1.4
Metatarsus	1.0	1.7
Tarsus	2.0	2.2
Total	6.0 mm.	8.1 mm.

Dorsum coarsely granulate, the median portion of the anterior margin of the cephalothorax with the characteristic elevation. This elevation with eight to ten spinules lacks a median line. Elevation extends in the form of a triangle from the anterior margin to the eye tubercle. On either side laterad to the median elevation is a group of four to five small spinules. Eye tubercle low, not canaliculate, four or five spinules over each carina. Between the cephalothorax and the abdomen is a transverse row of six small spines. On each abdominal segment is a median pair of robust spines, and in addition on either side of the median spines, two to three other spines arranged in a transverse row with the median spine. These lateral spines very small on the first three segments but almost as large as the median ones on the posterior segments. Venter and coxae finely granulate, coxae without lateral teeth. A few spines and hairs at the distal portion.

Legs: trochanter with a few spines. Femora, patellae and tibiae with longitudinal rows of robust curved spines. These segments have an angular appearance due to these rows of spines. Two large spines present at the distal-dorsal surface of the femora and patellae of legs I, III and IV. Femora, patellae and tibiae of legs I and III heavier. Metatarsi of second leg with one false articulation.

Palpus: trochanter, 0.3 mm. long; femur, 0.5; patella, 0.4; tibia, 0.4; and tarsus, 0.6. Total length, 2.2 mm. Palpus armed throughout with scattered hairs, and in addition some spines on the ventral surface of the trochanter and femur.

Chelicera: normal.

Entire dorsum and eye tubercle black with a few lighter granules scattered about. These lighter granulations somewhat arranged in a sub-obsolete dorsal stripe. Venter and coxae dark reddish brown, shading to almost black at the margins. Legs except tarsi black with an occasional suggestion of dark brown. Tarsi dark brown. Chelicerae black, shading to lighter distally.

TYPE LOCALITY.—Male holotype from Cuernavaca, Morelos, in savannah, June 15, 1941 (M. Cárdenas).

This species differs from other known species of *Metopilio* by having an extremely black dorsum and heavy spines.

Leptobuninae Banks

Leptobunus mexicanus, new species

Figure 31

FEMALE.—Total length of body, 5.5 mm. Cephalothorax, 1.8 mm. Width of body at widest portion, 3.0 mm.

	I	II
Trochanter	0.4 mm.	0.4 mm.
Femur	3.3	5.5
Patella	1.1	1.1
Tibia	2.7	5.0
Metatarsus	3.1	4.7
Tarsus	4.5	9.9
Total	15.1 mm.	26.6 mm.
	III	IV
Trochanter	0.4 mm.	0.4 mm.
Femur	3.6	5.4
Patella	1.0	1.3
Tibia	2.7	4.1
Metatarsus	3.2	5.0
Tarsus	5.4	6.7
Total	16.3 mm.	22.9 mm.

Dorsum finely granulate, almost smooth. Eye tubercle slightly canaliculate, smooth above, in the median portion of the cephalothorax. Anterior margin of cephalothorax smooth, supracheliceral lamella smooth. Venter and coxae smooth, with a few scattered small black hairs. Coxae without lateral teeth, second maxillar lobes straight.

Legs: moderately long, clothed throughout with a few scattered spine-like hairs. Metatarsi with false articulations.

Palpus: trochanter, 0.3 mm. long; femur, 0.8; patella, 0.4; tibia, 0.6; and tarsus, 1.2. Total length, 3.3 mm. Palpus clothed throughout with scattered black spine-like hairs. These spine-like hairs larger and more prominent on the ventral portion of the femur. Palpal claw smooth.

Chelicera: normal.

Dorsum reddish brown with a broad median white stripe beginning just posterior to the eye tubercle and extending to the posterior portion of the abdomen. The stripe widens somewhat at the posterior portion. In the center of the stripe are two broken and irregular brown lines. On either side of the stripe the reddish brown is broken with many small silver punctations. The portion of the lateral region immediately adjacent to the white stripe is darker, giving the appearance of a darker stripe on either side of the white. Eye tubercle reddish brown at the base but white above. A few smaller darker brown mottlings at the anterior margin of the cephalothorax. Venter and coxae yellowish with darker brown mottlings which are more prominent at the distal portion of coxae I to III. Trochanters concolorous with the coxae, with some darker brown splotches in the dorsal portion. Legs yellowish with dark brown mottlings. These mottlings are especially prominent at the distal portion of the femur and on the patellae. Palpi yellowish with darker brown mottlings on the femur, patella and tibia. Chelicerae yellowish with darker mottlings.

TYPE LOCALITY.—Female holotype from

mountain meadow at Cerro Tancitaro, Michoacan, altitude 7800 feet, July 16, 1941 (H. Hoogstraal).

This species differs from *L. californicus* Banks in the dorsal color pattern and the relative proportions of the body.

Gagrellinae Thorell

Geaya esperanza, new species

Figure 27

FEMALE.—Total length of body, 4.2 mm. Cephalothorax, 1.4 mm. Width of body at widest portion, 3.6 mm. Length of femora: I, 13.5 mm.; II, 23.4 mm.; III, 12.6 mm.; IV, 15.7 mm.

Dorsum subtruncate posteriorly, granulate above. Eye tubercle toward the posterior portion of the cephalothorax, constricted at the base, canaliculate above, smooth. Suprachelicera lamella prolonged into two blunt spines. Anterior margin of the cephalothorax smooth, very slight elevation in the median portion. Venter and coxae covered with irregularly scattered small black spines. Lateral teeth present on the anterior margins of coxae I to IV and a few on the posterior margins of coxae I and IV.

Legs: armed, except for the metatarsi and tarsi, with small black spines. Metatarsi with false articulations. Nodules: 0–3–0–0.

Palpus: trochanter, 0.4 mm. long; femur, 2.0; patella, 0.5; tibia, 1.0; and tarsus, 1.9. Total length, 5.8 mm. Palpus clothed throughout with hairs, numerous small black spines on the ventral surface of the femur and tibia; a few on the dorsal surface of the femur and patella. A small but distinct apical median apophyses on the patella. Tarsal claw toothed.

Chelicera: normal.

Dorsum dark brown, cephalothorax lighter brown with a transverse series of white splotches extending across the cephalothorax immediately anterior to the eye tubercle. Eye tubercle dark brown, lighter at the base. At the junction of the cephalothorax and the abdomen is a transverse row of irregular small white spots. An irregular series of small white spots is present on the abdominal scute, more numerous in the median portion and irregularly grouped according to the segments. A few of these dots along the lateral margin. In the region of the fourth trochanter, a white splotch on either side of the lateral margin. Venter and coxae light reddish brown, trochanters concolorous with the coxae. Legs reddish brown, darker than the coxae. Palpi light brown except for the distal portion of the femur, patella and tibia which is dark brown. Chelicerae light.

TYPE LOCALITY.—Female holotype from La Esperanza, Chiapas, September 18, 1939 (C. Bolívar and D. Peláez). Female paratype from Chapulhuacan, Hidalgo, May 5, 1942 (C. Bolívar).

G. esperanza is related to *Geaya bimaculata* de Caporiacco, but has an apophyses on the patella of the palpus and the dorsal color pattern is different.

Geaya davisi, new species

Figure 25

FEMALE.—Total length of body, 2.2 mm. Cephalothorax, 0.7 mm. Width of body at widest portion, 1.6 mm. Length of femora: I, 7.8 mm.; II, 13.3 mm.; III, 7.6 mm.; IV, 10.1 mm.

Dorsum granulate, eye tubercle at the posterior portion of the cephalothorax, constricted at the base, slightly canaliculate above, a few very small spines over each carina. Suprachelicera lamella prolonged into two blunt spines. Venter and coxae granulate, characteristic three-pronged teeth present on the anterior and posterior margin of the coxae. A few teeth present on the lateral margins of the genital operculum.

Legs: armed with small black spines, more or less arranged in rows. These spines are larger and more numerous on the femora. Metatarsi with numerous false articulations. Nodules: 0–3–0–0.

Palpus: trochanter, 0.2 mm. long; femur, 0.7; patella, 0.3; tibia, 0.4; and tarsus, 0.7. Total length, 2.3 mm. Palpus clothed throughout with scattered hairs, and in addition small spines at the ventral portion of the femur. Tarsal claw toothed, patella with a small but distinct apical median apophyses.

Chelicera: normal.

Dorsum golden yellow. Eye tubercle light at the base, but dark brown, almost black above. A dark brown band begins at the eye tubercle and margins the abdomen, including the free tergites. Venter and coxae golden. Trochanters and bases of femora dark brown, contrasting with the coxae. Legs light brown. All legs with a conspicuous white band at the apical portion of the tibia and the proximal portion of the metatarsi. Trochanter and tarsus of palpus yellowish, base of femur light brown; most of femur, patella and tibia very dark brown. Chelicera yellowish.

TYPE LOCALITY.—Female holotype from 62 miles north of Acapulco, Guerrero, June 18, 1936 (A. M. and L. I. Davis).

Geaya davisi shows affinities to *Geaya unicolor* Roewer but differs markedly in the appearance of the dorsum.

Geaya plana, new species

Figure 26

MALE.—Total length of body, 2.1 mm. Cephalothorax, 0.9 mm. Width of body at

widest portion, 1.6 mm. Length of femora: I, 5.0 mm.; II, 8.1 mm.; III, 5.1 mm.; IV, 6.8 mm.

Dorsum roughly granulate, truncate posteriorly as seen from above. Eye tubercle at the posterior portion of the cephalothorax, constricted at the base, not canaliculate, only a few small tubercles above each carina. Supracheliceral lamella in the form of two blunt spines. Venter and coxae roughly granulate. Characteristic three-pronged teeth on the anterior and posterior margins of coxae I to IV.

Legs: armed with small scattered black spines, more numerous and somewhat arranged in rows on the femora. Metatarsi with false articulations. Nodules: 0–3–0–0.

Palpus: trochanter, 0.2 mm. long; femur, 0.8; patella, 0.3; tibia, 0.5; and tarsus, 0.7. Total length, 2.5 mm. Palpus armed with small scattered hairs, a few small spines at the ventral portion of the femur. Tarsal claw toothed. Slender apophyses at the apical median portion of the patella.

Chelicera: normal.

Dorsum including eye tubercle dark reddish brown with a black overcast. Venter and coxae concolorous, trochanters and bases of femora very dark, almost black. Legs dark reddish brown. Palpus except tarsus dark reddish brown with a dull overcast. Tarsus lighter. Chelicera yellowish.

TYPE LOCALITY.—Male holotype from Ixtapan del Oro, Mexico, June 8, 1941 (F. Bonet).

This species shows affinities to *Geaya aenescens* Roewer, differing in the size of the body and the appearance of the eye tubercle.

Parageaya albifrons, new species

Figure 28

MALE.—Total length of body, 3.1 mm. Cephalothorax, 0.9 mm. Width of body at widest portion. 2.5 mm. Length of femora: I, 6.3 mm.; II, 9.5 mm.; III, 6.3 mm.; IV, 8.1 mm.

Dorsum roughly granulate, eye tubercle canaliculate, smooth above, constricted at the base. Anterior margin of the cephalothorax smooth, supracheliceral lamella smooth. Venter and coxae roughly granulate, a few scattered hairs on the genital operculum. Lateral teeth present on the anterior and posterior margins of coxae I to IV and on the lateral margins of the genital operculum. These teeth are characteristically three-pronged.

Legs: femora and patellae of legs armed with small black spines. Legs clothed throughout with scattered hairs. Metatarsi with false articulations. Nodules: 0–2–0–0.

Palpus: trochanter, 0.5 mm.; femur, 0.9; patella, 0.4; tibia, 0.4; and tarsus, 1.1. Total length, 3.2 mm. Palpus clothed throughout with long white hairs. Hairs more numerous and darker colored on the tarsus. A few small brown spines on the ventral portion of the femur and patella. Patella with apophyses. Tarsal claw toothed.

Chelicera: normal, clothed with hairs.

Dorsum dark, metallic. The over-all color is dark brown, but the metallic sheen occasionally giving the appearance of green. A few lighter spots at the posterior portion of the cephalothorax. Eye tubercle dark brown. Venter and genital operculum dark brown. Coxae, trochanters and bases of femora very dark brown. Legs light brown. Palpi white, chelicera white except for the tips of the claws which are dark brown. Supracheliceral lamella white. The white appearance of the anterior appendages is quite conspicuous, contrasting strongly with the posterior darker cephalothorax.

FEMALE.—Total length of body, 4.1 mm. Cephalothorax, 1.2 mm. Width of body at widest portion, 2.6 mm.

Similar in appearance to male.

TYPE LOCALITY.—Male holotype and male and female paratypes found in decayed wood at Orizaba, Vera Cruz, January 14, 1942 (F. Bonet).

Parageaya albifrons differs from *Parageaya ciliata* Mello-Leitao by lacking the apophyses on the tibia of the palpus and in having a distinctive color pattern.

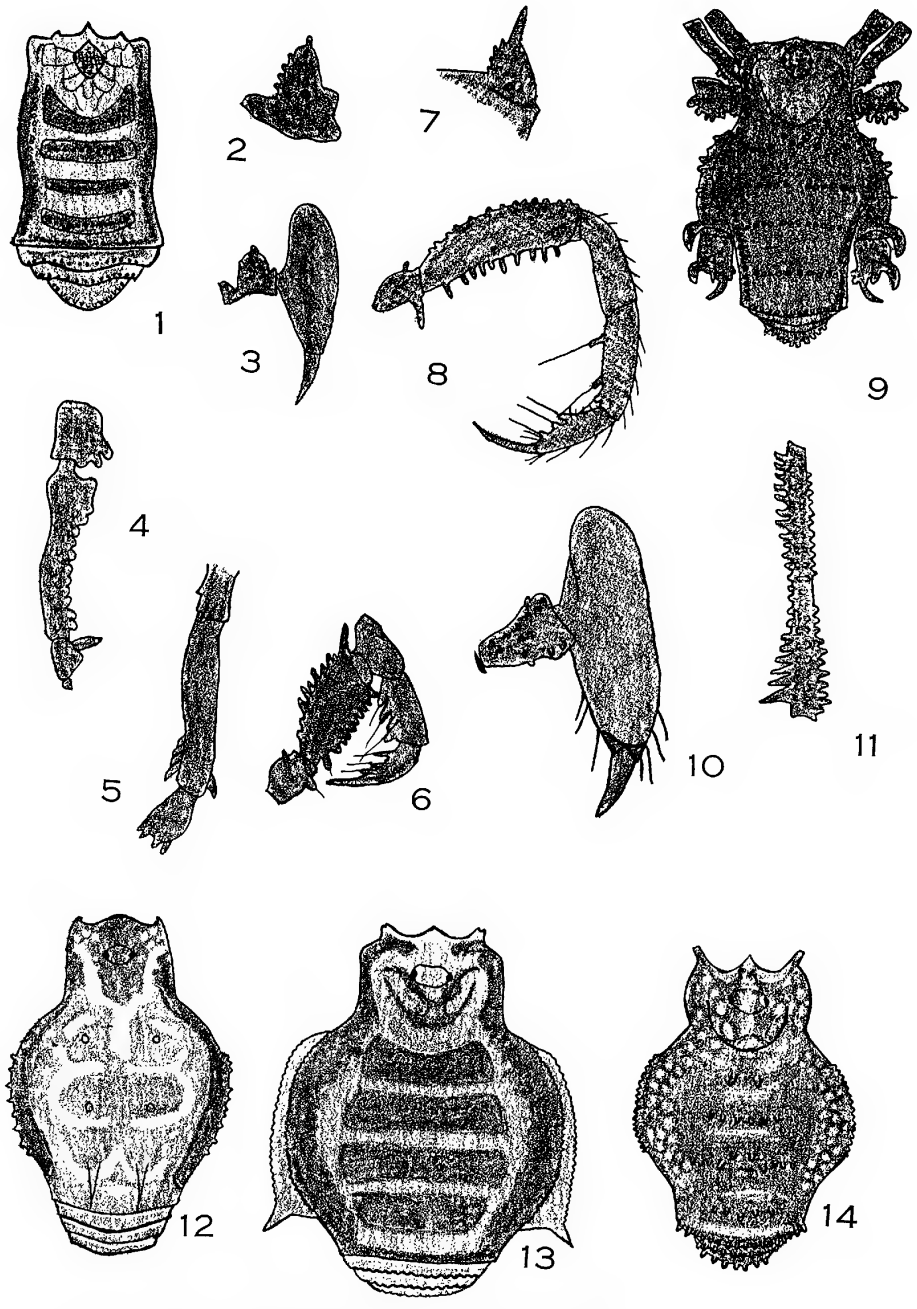
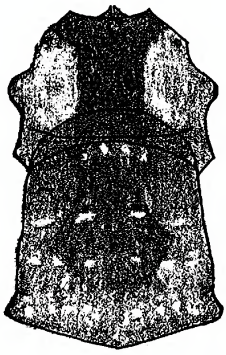


Fig. 1. *Hoplobunus barretti* Banks, dorsal view of male.
Fig. 2. Idem, lateral view of eye tubercle of male.
Fig. 3. Idem, retrolateral view of left chelicera of male.
Fig. 4. Idem, prolateral view of trochanter, femur and patella of leg III of male.
Fig. 5. Idem, prolateral view of trochanter, femur and patella of leg IV of male.
Fig. 6. Idem, retrolateral view of left palpus of male.
Fig. 7. *Serrobunus boneti*, new species, lateral view of eye tubercle of male.
Fig. 8. Idem, retrolateral view of left palpus of male.
Fig. 9. Idem, dorsal view of male.
Fig. 10. Idem, retrolateral view of left chelicera of male.
Fig. 11. Idem, prolateral view of femur of leg IV of male.
Fig. 12. *Gueroma lineata*, new species, dorsal view of female.
Fig. 13. *Poala granulosa*, new species, dorsal view of male.
Fig. 14. *Michella hoogstraali*, new species, dorsal view of male.



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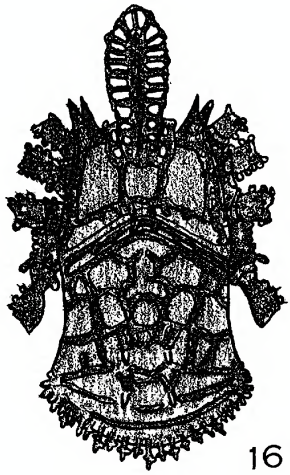

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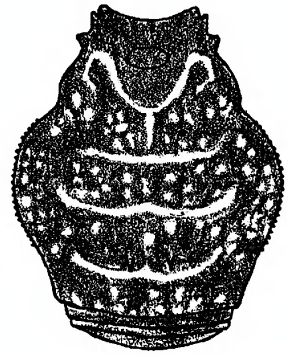

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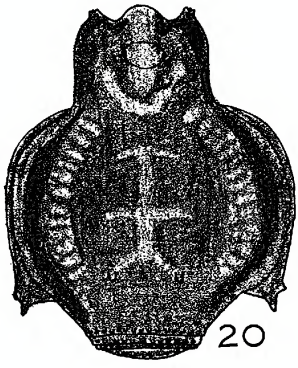

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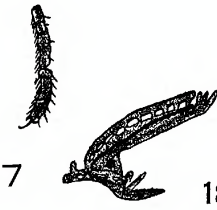

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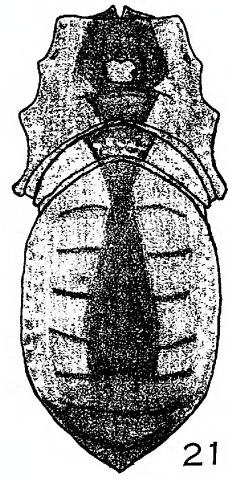

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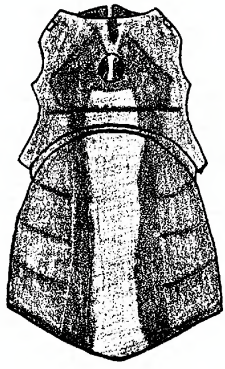

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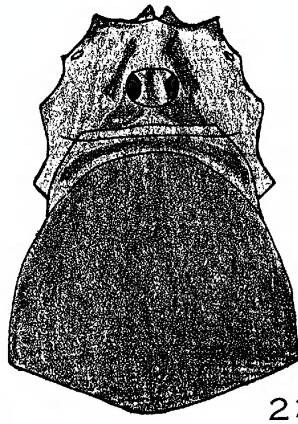

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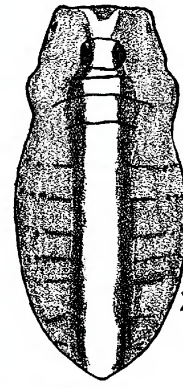

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Fig. 15. *Nelima mexicana*, new species, dorsal view of male.
Fig. 16. *Trilasma bolivari*, new species, dorsal view of male.
Fig. 17. Idem, tarsus of leg I of male.
Fig. 18. Idem, lateral view of eye tubercle of male.
Fig. 19. *Ornotus pelaezi*, new species, dorsal view of female.
Fig. 20. *Metavonones hispidus* Cambridge, dorsal view of male.
Fig. 21. *Leiobunum potosum*, new species, dorsal view of female.
Fig. 22. *Nelima tancitaro*, new species, dorsal view of male.
Fig. 23. *Leiobunum patzquarum*, new species, dorsal view of male.
Fig. 24. *Paranelima albalineata*, new species, dorsal view of female.

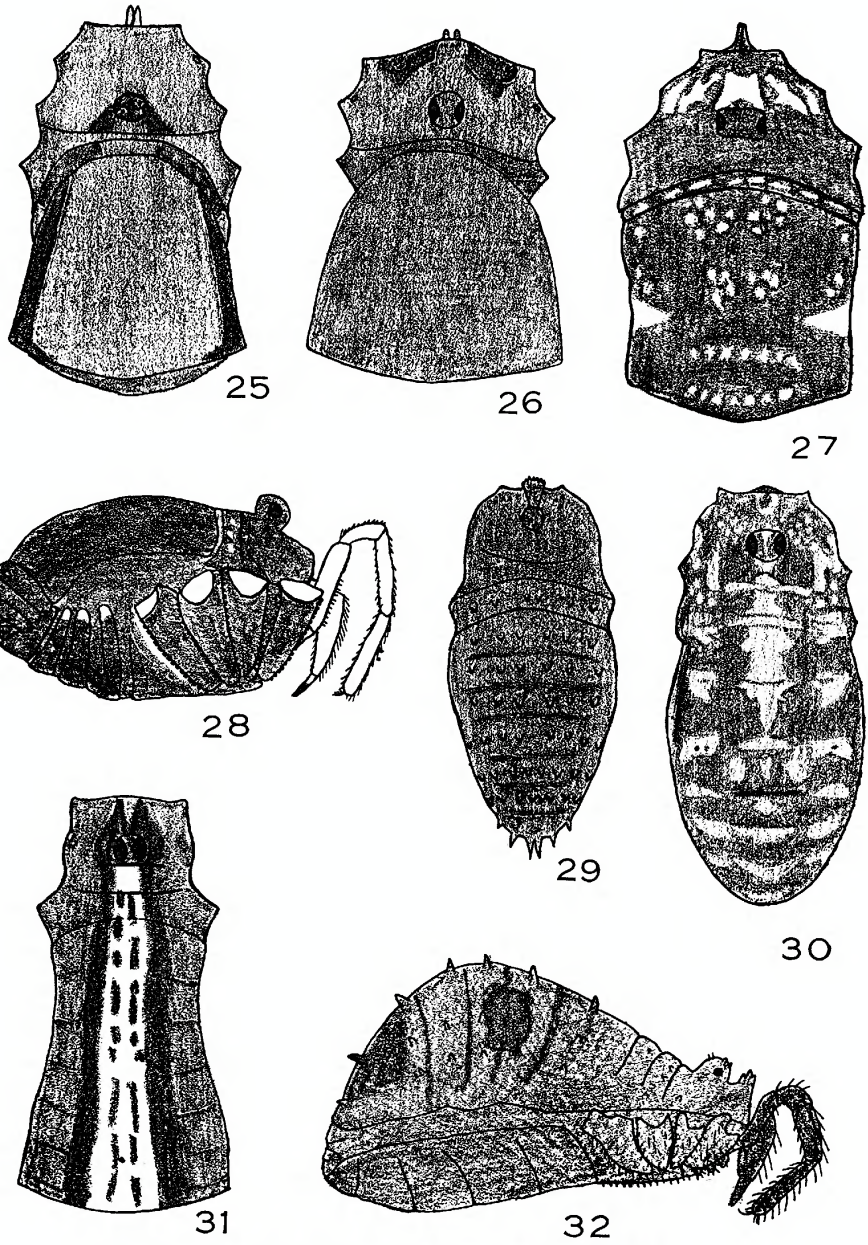

Fig. 25. *Geaya davisi*, new species, dorsal view of female.
Fig. 26. *Geaya plana*, new species, dorsal view of male.
Fig. 27. *Geaya esperanza*, new species, dorsal view of female.
Fig. 28. *Parageaya albifrons*, new species, lateral view of male.
Fig. 29. *Metopilio niger*, new species, dorsal view of male.
Fig. 30. *Paranelima cerrana*, new species, dorsal view of female.
Fig. 31. *Leptobunus mexicanus*, new species, dorsal view of female.
Fig. 32. *Metopilio hispidus* Roewer, lateral view of female.